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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

KIM, J

ART UNIT

2871

PAPER NUMBER

DATE MAILED: 12/10/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/936,510

Applicant(s)
Kim

Examiner
Joanne Kim

Group Art Unit
2871



- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-36 is/are pending in the application.
- Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-36 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☒ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of References Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Regarding page 7, line 9, "A1" should be changed to "Al".

Appropriate correction is required.

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification does not describe the first or second alignment layer being exposed to ultraviolet light only once as claimed in claims 28, 36.

Claim Objections

3. Claims 21, 24 are objected to because of the following informalities:

Regarding claim 21, line 1, "wherein said forming" should be changed to "wherein said forming".

Regarding claim 24, line 1, "wherein said providing" should be changed to "wherein said providing".

Appropriate correction is required.

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Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 13 recites the limitation "the second alignment layer" in line 1. There is insufficient antecedent basis for this limitation in the claim.

6. Claims 27, 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 27, 35, line 2, "partially polarized" is not defined in the specification. For purpose of examination, it is assumed to be "polarized".

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-25, 28-33, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeh et al. (U.S. Patent 5,196,953) in view of Sugiyama et al (U.S. Patent 5,757,455).

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Yeh et al. disclose a liquid crystal display that can be either reflective-type or transmissive-type in figure 4, comprising two substrates (418, 420), at least one uniaxial compensation film (43).

Yeh et al. disclose all the limitations of above limitations expect for having an alignment layer having a plurality of alignment directions.

Sugiyama et al. disclose a liquid crystal display, in figure 10, comprising:

a pair of substrates and a liquid crystal layer sandwiched between the pair of substrates (column 1, lines 66-67; column 2, lines 1-2);

at least one uniaxial optical compensation file (48 or 49), which can be either negative-type (49) or positive-type (48), over a second substrate;

two alignment layers which the alignment directions are perpendicular to each other (column 2, lines 5-13); a first alignment layer over the first substrate; a second alignment layer having a plurality of alignment directions, which includes two alignment directions (43b and 43a), over the second substrate (column 2, lines 16-17), and a method of manufacturing such device.

Sugiyama et al. also disclose the method of forming the alignment layer that can be either rubbed or exposed to ultraviolet light to form the alignment directions (column 4, lines 21-23, column 5, lines 26-28) and a number of alignment patererns of the alignment layer with a plurality of domains including the alignment directions of the alignment layer are perpendicular or parallel to one another (figure 6G).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to add an alignment layer having a plurality of alignment directions to Yeh's display device to reduce the visual angle dependency. Also, it would have been obvious to one of ordinary skill in the art at the time of the invention to form a reflective electrode on one of the substrate to make the device to be reflective-type.

Clerc et al. (U.S. Patent 4,701,028) and Miura et al. (U.S. Patent 5,815,230) disclose more information on a liquid crystal display device comprising two substrates, at least one uniaxial optical compensation film and can be either reflective-type or transmissive-type.

9. Claims 26, 27, 34, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeh et al. in view of Sugiyama et al. as applied to claims above, and further in view of Toko (U.S. Patent 5,793,459).

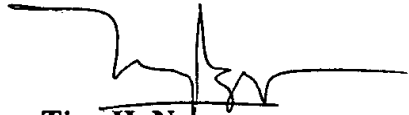
Yeh et al. and Sugiyama et al. disclose all the limitations of above claims except for the ultraviolet light being non-polarized or polarized. Toko disclose polarized or non-polarized light being applied in the alignment process of the alignment layer. It would have been obvious to one of ordinary skill in the art at the time of the invention to use non-polarized or polarized ultraviolet light to form the alignment directions of the alignment layer.

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10. Any inquire concerning this communication or earlier communications from the examiner should be directed to Joanne Kim whose telephone number is (703) 305-0420.

Any inquire of a general nature of relating to the status of this application or proceeding should directed to the group receptionist whose telephone number is (703) 308-1615.

JK
December 3, 1998



Tiep H. Nguyen
Patent Examiner
Technology Center 2800